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EDUCATION

- **Massachusetts Institute of Technology, Cambridge, MA** Sep. 2002 - Feb. 2008
Ph.D. in Electrical Engineering and Computer Science
Topic: Efficient Approaches to Robust and Cooperative Wireless Network Design
Advisor: Professor Moe Z. Win
- **Tokyo Institute of Technology, Tokyo, JAPAN** Apr. 1998 - Mar. 2000
Master of Engineering in Electrical Engineering
Topic: Multiuser Detection for DS-CDMA Mobile communication Systems
Advisor: Professor Hiroshi Suzuki
- **Tokyo Institute of Technology, Tokyo, JAPAN** Apr. 1994 - Mar. 1998
Bachelor of Engineering
Major in Electrical & Electronics Engineering

RESEARCH INTERESTS

General research interests are the application of mathematical, optimization, game, and statistical theories to communication, networking, signal processing, information theoretic, and resource allocation problems. Current research topics include cooperative networks, heterogeneous networks, green communications, smart grid, wireless security, compressed sensing, and cognitive radio.

HONORS AND AWARDS

- IEEE SPAWC 2013 Student Best Paper Award.
- 2012 IEEE William R. Bennett Prize in the Field of Communications Networking.
- Chinese Academy of Sciences Fellowship for Young International Scientists in 2011.
- Japan Society for the Promotion of Science Invited Fellow for Research in Japan 2011.
- JCI The Outstanding Young Persons of Singapore Awards 2011 Finalist.
- I²R Best Research Paper of the Year 2010.
- IEEE Globecom 2010 Best Paper Award.
- IEEE Globecom 2010 GOLD Best Paper Award.
- I²R Good Team Player Award in FY08 and FY09.
- The Award for Leading, Educating & Nurturing Talent, 2009.
- Philip Yeo Prize for Outstanding Achievement in Research, 2008.
- Travel Grant from Office of Naval Research to attend IEEE International Conference on Communications (ICC), Jun. 2007.
- Travel Grant from Institute for Pure and Applied Mathematics (IPAM) to attend the workshop on "Mathematical Challenges and Opportunities in Sensor Networking", Jan. 2007.
- 2nd place in 1998 IEEE Student Paper Contest at Tokyo Institute of Technology.

- 2nd place in 1999 IEEE Student Paper Contest at Tokyo Institute of Technology.
- A*STAR National Science Scholarship, 2002 - 2007.
- Tokyū Foundation Graduate Fellowship, 1998 - 2000.
- Public Service Commission Scholarship, 1993 - 1998.

EXPERIENCE

Work Experience

- **Singapore University of Technology and Design**
Assistant Professor, Jul. 2012-Present
Information Systems Technology and Design Pillar
- **Institute for Infocomm Research, A*STAR**
Principal Investigator & Group Leader, Feb. 2008-Present
- **Advanced Digital Sciences Center, UIUC**
Affiliate, Jul. 2012-Present
- **NTT DOCOMO Wireless Research Laboratory, Yokotsuka, Japan**
Research Intern, Summer 2003
- **Center for Wireless Communications, Singapore**
Research Engineer, 2001-2002

Teaching Experience

- **Singapore University of Technology and Design**
ISTD and ESD Pillars, Jan. 2013-Present
 - 10.007: Modeling the Systems World, Term 3 2013, Lead course instructor
- **Nanyang Technological University**
Division of Communication Engineering, Jan. 2009-Jan. 2013
 - EE6126: Wireless Multiple Access Communications, 2010/2011, Semester Two
 - EE6126: Wireless Multiple Access Communications, 2011/2012, Semester Two

Visiting Experience

- **Tokyo Institute of Technology, Japan**
Guest Researcher, Nov. 2011-Dec. 2011
- **Kyung-Hee University, Korea**
Visiting Researcher, Aug. 2010, Sep. 2011
- **Supélec, France**
Visiting Researcher, Jun. 2010,
- **City University of Hong Kong, Hong Kong**
Visiting Scientist, May 2010
- **Institute for the Protection and Security of the Citizen, Joint Research Centre, Ispra, Italy**
Invited Expert, Jun. 2009
- **Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni (IEIIT), University of Bologna, Bologna, Italy**
Visiting Research Scholar, Summer 2006

Student Supervision & Examination

a) Postdoctoral Associates and Fellows

- **Jemin Lee, Ph.D. 2010, Yonsei Univ., Korea**
Small cell networks, D2D communications, and Wireless secrecy, Jan. 2013-Present
- **Subhash Lakshminarayana, Ph.D. 2012, Supelec, France**
Green communications and Energy harvesting, Jan. 2013-Present
- **Wen Huang, Ph.D. 2010, The Univ. of Hong Kong, Hong Kong**
Cognitive radio networks and MAC design, Apr. 2013-Present
- **Marco Maso, Ph.D. 2013, Supelec, France**
Cognitive radio networks and Dynamic spectrum access, May 2013-Present
- **Dongshuang Hou, Ph.D. 2013, Univ. of Twente, Netherlands**
Game theory and Heterogeneous networks, Oct. 2013-Present

b) Doctoral Theses in progress, Supervisor

- **Matthias Wildemeersch, Faculty of Electrical Eng., Univ. of Twente, Netherlands**
Interference in Wireless Networks, Jan. 2012-Present
Co-supervision with Professor C.H. Slump
- **Jack Jun Feng Ho, Division of Communication Eng., Nanyang Technological Univ., Singapore**
Social Sensing, Aug. 2012-Present
Co-supervision with Professor Wee Peng Tay
- **Anku Adhikari, Department of Electrical and Computer Eng., Univ. of Illinois at Urbana Champaign, USA**
Wireless Security, Jan. 2013-Present
Co-supervision with Professor Yih-Chun Hu
- **Yufei Yang, Eng. Systems Design Pillar, SUTD, Singapore**
Optimization and Incentive Mechanism Design, Sep. 2013-Present
- **Howard Yang, Information Systems Technology and Design Pillar, SUTD, Singapore**
Wireless Heterogeneous Networks, Sep. 2013-Present

c) Doctoral Theses completed, Reader

- **Seokjung Kim, School of Electrical and Electronic Engineering, Yonsei University, Korea**
Capacity Analysis of Opportunistic Relaying with Adaptive Transmission and Outdated Channel Information, Jun 2013
External Examiner for Professor Daesik Hong

d) Research Attachment

- **Liang Ze Wong, Institute for Infocomm Research, Singapore**
National Science Scholar RA, Aug. 2012-Aug. 2014
Worked on heterogeneous wireless networks.
- **Chen-Feng Liu, Academia Sinica, Taiwan**
Research Associate, Jul. 2013
Worked on energy harvesting networks.
- **Daniel Chongli Chen, MIT, USA**
National Science Scholar RA, Aug. 2012-Jul. 2013
Worked on backhauling in small cell networks.

- **Yufei Yang, SUTD, Singapore**
Postgraduate RA, Jun. 2012-Dec. 2012
Worked on economic incentives in small cell networks.
- **Yong Sheng Soh, Caltech, USA**
National Science Scholar RA, Aug. 2011-Aug. 2012
Worked on stochastic geometry and random graph for wireless networks.
- **Niangjun Chen, Caltech, USA**
National Science Scholar RA, Aug. 2011-Jul. 2012
Worked on power flow optimization problem in smart grid networks.
- **Jing Shi, Harvard University, USA**
National Science Scholar RA, Aug. 2011-Jul. 2012
Worked on pricing for networks.
- **Thang Van Nguyen, Kyung Hee University, Korea**
Postgraduate RA, Feb. 2011-Aug. 2011
Worked on secure communication over interference networks.
- **Joel Wei En Tay, MIT, USA**
National Science Scholar RA, Aug. 2010-Aug. 2011
Worked on optimization for MIMO multicast systems.
- **Wang Chi Cheung, MIT, USA**
National Science Scholar RA, Aug. 2010-Aug. 2011
Worked on stochastic geometry for heterogeneous networks.
- **De Wen Soh, Yale University, USA**
National Science Scholar RA, Apr. 2010-Aug. 2011
Worked on gossiping algorithms for dynamic networks.
- **Daryl Kah Hian Lim, University of California at San Diego, USA**
National Science Scholar RA, Dec. 2009-Jun. 2010
Worked on compressed sensing.
- **Desmond Wuhan Cai, Caltech, USA**
National Science Scholar RA, Jul. 2009-Aug. 2010
Worked on MIMO optimization.
- **Nannan Li, Caltech, USA**
National Science Scholar Pre-departure Attachment, Jul. 2009-Aug. 2009
Worked on evaluation of light transport acquisition methods.
- **Kampol Woradit, Srinakharinwirot University, Thailand**
Postgraduate RA, Jul. 2009-Oct. 2009
Worked on cooperative communications for 4G Systems.

Other Experience

- **Research Space Committee of ISTD**
Member of the research space committee of SUTD, Mar. 2013-Present
- **Graduate Committee of ISTD**
Member of the PhD committee of ISTD, Sep. 2012-Present
- **Public Sector Funding Panel of SERC**
Member of public sector funding panel of the SERC, Apr. 2011-Mar. 2012

- **A*STAR SERC Interviewer for A*STAR Scholarships**
*Member of interviewer panel for A*STAR scholarships, Sep. 2010-Sep. 2012*
- **Singapore International Science Challenge 2009**
Member of judging panel for the research poster presentation, May 2009
- **A*STAR JC Science Award 2009**
Member of interview panel, May 2009
- **A*STAR YRAP 2009**
Member of interview panel, Feb 2009

RESEARCH HIGHLIGHTS

- **Ultra-Wide Bandwidth (UWB) Communications:** Performed innovative work on UWB radio and provided an analytical study of UWB wireless networks, particularly non-coherent systems. UWB has the desirable characteristic of high resistance to fading. The Federal Communications Commission (FCC) approved the unlicensed UWB operation and commercial deployment of UWB technology under Part 15 rules in February 2002 for a vast array of new applications including broadband internet access, medical imaging, and ground penetrating radar. Specific contributions include:
 - **Transmitted-Reference (TR) Signaling for UWB Communications:** Developed an analytical framework, based on sampling expansion approach, to evaluate the performance of TR and differential TR signaling for UWB systems with autocorrelation receivers. Our analysis, which are valid for a broad class of fading channels, include the effect of single source of narrowband interference, multiple sources of narrowband interference, and uncoordinated UWB network interference.
 - **Energy Detection for UWB Communications:** Developed an analytical framework, based on sampling expansion approach, to evaluate the performance of pulse position modulation for UWB systems with energy detection receiver. Our analysis, which are valid for a broad class of fading channels, include the effect of single source of narrowband interference, multiple sources of narrowband interference, and uncoordinated UWB network interference.
- **Small Cell Networks:** The ever-increasing need for higher data rates and multimedia services leads to stringent requirements on the bit rate/km² that next-generation cellular wireless networks are expected to deliver. A promising approach to solving this problem is through the deployment of small cell networks, which represent a novel networking paradigm based on the idea of deploying short-range, low-power, and low-cost base stations operating in conjunction with the main macro-cellular network infrastructure. Specific contributions include:
 - **Beamforming Optimization for Multiuser Two-Tier Networks:** Formulated several joint beamformer and power allocation problems in multiuser MISO two-tier networks. Proposed both centralized and decentralized designs depending on the type of CSI available and extended to the robust case under imperfect CSI.
 - **Throughput Optimization of Two-Tier Networks:** Proposed a two-tier network model that captures the geometries of macrocells, small cells, and users more realistically for both uplink and downlink. Derived the success probabilities when shared spectrum or partitioned spectrum is employed and investigated the performance of two-tier networks in terms of energy efficiency and fairness of resource allocation.
 - **Cognitive Hybrid Division Duplex for Two-Tier Networks:** Proposed a cognitive hybrid division duplex scheme for the two-tier network that allows for simultaneous frequency division duplex and time division duplex operations. Developed a spatial randomness-aware methodology on how to design optimal switching mechanism for cognitive femtocells. Derived success probability, total network throughput, and spatial average capacity for the proposed scheme.
 - **Interference Alignment in Random MIMO Femtocell Networks:** Proposed an opportunistic interference alignment scheme to design the transmit and receive beamformers in femtocell net-

works. Derived the distribution of received signal-to-interference plus noise ratio, spatial average capacity, network throughput, and energy efficiency.

- **Slow Admission and Power Control:** Proposed a slow adaptive joint admission and power control algorithm, where the QoS metric used is outage constraint. Extended the algorithm to handle uncertain CSI. Developed a decentralized method to implement the proposed algorithm, such that which each femtocell can determine its own admissibility and transmit power.
- **Backhaul-Constrained Optimization:** Investigated the optimization on two-tier backhaul constrained small cell networks with refunding. Formulated a Stackelberg game with wireless operator being leader and small cells being followers. Proposed a novel lookup table approach at wireless operator and guest user admission algorithm at small cells to reach subgame perfect equilibrium.
- **Backhaul Modeling:** Modeled a hierarchical network structure using homogeneous Poisson Point Processes by taking into account backhaul delay and deployment cost. Comparing wired and wireless backhaul, provided guideline on the ratio of small cell access points such that further densification is not worthwhile due to delay and cost.
- **Cooperative Networks:** Cooperative communications constitutes a new wireless networking paradigm whereby nodes work together in order to achieve a common goal. Harnessing the collective power of the network enables better reliability, increased coverage, longer network life, higher throughput, and massively parallel processing. Specific contributions include:
 - **Optimal and Robust Power Allocation in Wireless Relay Networks:** Designed optimal and robust relay power allocation algorithms for amplify-and-forward (AF) relay networks. The problem formulation is to maximize the output SNR while controlling network interference by incorporating individual and aggregate relay power constraints. Under perfect global CSI, showed that these optimization problems can be formulated as quasiconvex optimization problems. Extended these results to include uncertainties in global CSI using robust optimization methodology.
 - **Robust Wireless Relay Networks with Slow Power Allocation and Guaranteed QoS:** Designed practical relay power allocation algorithms for AF relay networks with realistic power update rates in the order of large-scale fading. The problem formulation is to minimize the total relay transmission power while satisfying some QoS constraint. Developed conditions for verifying the feasibility and optimality of solutions. Introduced robust optimization methodology to extend these results to take into account uncertainties in global CSI.
 - **Cooperation in Bandwidth-Constrained Wireless Sensor Networks:** Evaluated two different fusion architectures in terms of system reliability and average energy consumption depending on whether sensor nodes are allowed to collaborate or not. Proposed a consensus flooding protocol for cooperation. Obtained insights into the trade-offs between reliability and energy efficiency with regard to spatially varying sensor observations, network connectivity, and realistic link models.
 - **Bursty Relay Networks in Low-SNR Regimes:** Derived achievable rates of bursty AF relay networks for narrowband and wideband channels in the low SNR regime. Identified four scaling regimes, depending on the growth of the number of relay nodes and the increase of burstiness in transmissions relative to the SNR, and characterized their scaling orders in the joint asymptotic regime of the number of relay nodes, SNR, and the duty-cycle parameter.
 - **Outage Behavior of Selective Relaying Schemes:** Derived the outage capacity for several cooperative diversity schemes in relay networks with a finite number of relay nodes. Showed that there exists a SNR threshold, below which some cooperative diversity schemes outperform direct communication. Proposed a smart selection cooperative diversity scheme that exploits this knowledge of the SNR threshold.
 - **Random Coding Exponents for AF Relay Channels:** Derived the random coding error exponent for dual-hop AF relay fading channels. Defined and derived the minimal random coding error exponent for two-way AF relay fading channel. Determine the optimal rate allocation among the

two terminals under a sum-rate constraint and for rates smaller than the critical rates. Determine the optimal power allocation at each terminal so as to maximize the MRCE given knowledge of global channel state information.

- **Layered Wireless Video Transmissions in Relay Networks:** Developed a framework for wireless video transmissions over AF relay networks using progressive and superposition layered schemes. Proposed resource allocation algorithms to efficiently assign rate, power, and channel uses to different layers so as to maximize the quality of the reconstructed video.
 - **Cooperative Multicell ARQ in MIMO Cellular Uplink Channels:** Studied coordinated reception and processing of transmitted signals at multiple MIMO base stations in the uplink. Proposed several cooperative automatic repeat request protocols via backhaul links and derived their respective average packet error probabilities and throughput.
 - **Distributed Precoding for Network MIMO:** Proposed distributed precoder designs for network MIMO downlink channels with minimal requirements on the amount of CSI needed and no requirement on signal information from other base stations. Investigated the effect of imperfect CSI on our proposed precoders and extend to robust designs of precoder.
 - **Max-min SIR Optimization in Coordinated Multicell MIMO Downlink System:** Studied max-min weighted SIR problem subject to multiple weighted-sum power constraints. Derived the uplink-downlink duality principle to the single-constrained problem. Applied nonlinear Perron-Frobenius theory to derive a closed-form solution for the multiple-constrained problem and derived an algorithm which converges geometrically fast to the optimal solution.
 - **CoMP Transmission with Limited Backhaul Data Transfer:** Formulated the problem of jointly minimizing the user data transfer in the backhaul and designing transmit beamformers. Proposed a centralized algorithm to tackle this problem by solving a series of convex l_1 -norm minimization problems. Proposed a semi-distributed algorithm by applying the projected subgradient method and iterative function evaluation.
- **Green Communications:** Future demands on multimedia services and broad radio coverage will result in significantly increasing power consumption in devices, networks and also systems. This will eventually lead to radio pollution, global carbon dioxide emission, and greenhouse effects. With this environmental awareness, system designers have started to explore how to design and deploy more energy efficient wireless networks. Specific contributions include:
 - **Optimization for Multiuser MIMO Downlink System:** Studied the max-min weighted SIR problem under a total power constraint. Showed that this problem can be optimally and efficiently computed using a fast algorithm when the channels are rank-one, and derived the optimal transmit and receive power and beamformers analytically. Adapted our algorithm to compute a local optimal solution in the general case of MIMO channels.
 - **Energy Efficient Heterogeneous Networks:** Derived the success probability and energy efficiency in homogeneous macrocell networks with sleeping strategy and heterogeneous K-tier networks. Formulated optimization problems in the form of power consumption minimization and energy efficiency maximization and determined the optimal operating frequency of the macrocell base station.
 - **Energy Efficient Cognitive Small Cells:** Analyzed the trade-off between traffic offloading from the macrocell and the energy consumption of the small cell. Defined a fundamental limit on the interference density that allows robust detection. Propose a optimization framework that yields design guidelines for energy efficient small cells.
 - **Channel Acquisition in Energy Harvesting Systems:** Studied the problem of maximizing the time average throughput in energy harvesting systems with dynamic channel state acquisition. Modeled the energy harvesting battery as an energy queue and used the technique of Lyapunov optimization combined with the idea of weight perturbation to jointly optimize the channel probing and transmission decisions.

- **Cognitive Radio Networks:** A rigid spectrum licensing policy results in low spectrum utilization. This imbalance between the spectrum scarcity and low utilization motivates the concept of cognitive radio networks. A cognitive radio is designed to utilize the wireless spectrum opportunistically while maximizing its own spectral efficiency under interference-limited regime. Specific contributions include:
 - **Cognitive Network Interference Modeling:** Proposed a statistical model for the amplitude aggregate interference which accounts for the parameters related to the sensing procedure, spatial reuse protocol of secondary user, the spatial distribution of nodes, and environment dependent conditions. Applied this model to account effect of power control, shadowing, non-circular region, and error probability analysis.
 - **Proactive Dynamic Spectrum Access over Multiband Cognitive Radio Networks:** Proposed a joint sensing and probing approach to proactively sense and decide the best channel from multiple channels using the multi-armed bandit approach. Obtained upper and lower bounds on the number of channels to be probed for secondary throughput maximization.
 - **Network Selection:** Modeled the distributed allocation of spectrum in a heterogeneous network where multiple radio access technologies (RATs) coexist using non-cooperative game theory and pricing. Proposed the social objective is to maximize social welfare, which we define as the sum of the individual utilities. Developed algorithms based only on channel prices and channel qualities, by which each mobile terminal can choose which RBs to transmit on.
- **Wireless Security:** Broadcast nature of wireless medium makes wireless networks susceptible to eavesdropping, and hence secure transmission is a fundamental issue in such networks. Traditionally, this has been addressed by employing cryptographic protocols that are believed to be computationally hard for the adversary to decipher. Physical layer security serves as a counterpoint to these traditional methods of security by considering security in the wireless medium itself. Specific contributions include:
 - **Multicasting in Stochastic MIMO Network:** Derived the spacetime capacity into a sectoral region and the n th nearest ergodic capacity in a Poisson field to characterize the spatial average and ordering of MIMO ergodic capacity achieved by legitimate receivers in the region. In the presence of eavesdropping, determined the total amount of common confidential information flow per receive antenna into a region in Poisson fields of receiving equivalents.
 - **D2D Enhanced Cellular Secrecy Networks:** Developed a framework for the design of a secure and reliable D2D-cellular network. Provided insights to the optimal D2D mode selection and D2D frequency resource portion that maximizes the D2D-CNS throughput.
- **Smart Grid:** In order to cope with future demand increases as well as to provide a more robust and efficient way of delivering and distributing electricity, developing smart grid has become an urgent global priority. Communication infrastructures are at the core of the smart grid as they will empower the legacy power grid with the capability of supporting two-way energy and information flow, isolating and restoring power outages more quickly, facilitating the integration of renewable energy sources into the grid and empowering the consumer with tools for optimizing their energy consumption. Specific contributions include:
 - **Optimal Charging of Electric Vehicles:** Formulated a joint optimal power flow and charging optimization problem. Characterized the optimal offline charging schedule to be a valley-filling profile and proposed an online algorithm that followed this characterization.
- **Location-awareness Networks:** Location-awareness is essential for many wireless applications for navigation, sensing, communication, and inference. In some scenario, traditional solutions such as GPS or WiFi localization may be unavailable due to cost or environmental constraints. As a result, new and innovative solutions are necessary. Specific contributions include:
 - **Distributed localization:** Proposed a distributed algorithm based on belief propagation by exchanging covariance information with its neighboring sensors. Showed that the location estimate

of each node converges and is asymptotically unbiased when scatterers in the environment are either parallel or orthogonal to each other.

PROFESSIONAL ACTIVITIES

Associate Editor

1. IEEE TRANSACTIONS ON COMMUNICATIONS, Dec. 2011-Present.
2. IEEE WIRELESS COMMUNICATIONS LETTER, Sep. 2011-Present.
3. PHYSICAL COMMUNICATION, Aug. 2012-Present.
4. KSII TRANSACTIONS ON INTERNET AND INFORMATION SYSTEMS, Jan. 2013-Present.
5. TRANSACTIONS ON EMERGING TELECOMMUNICATIONS TECHNOLOGIES, JOHN WILEY & SONS INC., Jul. 2011-Jun. 2013.
6. JOURNAL ON SECURITY AND COMMUNICATION NETWORKS, JOHN WILEY & SONS INC., Jul. 2008-Jul. 2013.

Guest Editor

1. JOURNAL OF COMMUNICATIONS AND NETWORKS, Special Issue on Heterogeneous Networks, Aug. 2011.
2. IEEE COMMUNICATIONS MAGAZINE, Special Issue on Heterogeneous and Small Cell Networks (Het-Net), May 2013.
3. IEICE TRANSACTIONS ON COMMUNICATIONS, Special Issue on Heterogeneous Networks for Future Cellular Systems, Jun. 2013.
4. PHYSICAL COMMUNICATION, Special Issue on Heterogeneous and Small Cell Networks, 2014.

Vice Chair

1. Green Cellular Networks Special Interest Group, Technical Subcommittee on Green Communications & Computing, IEEE Communications Society, Jun. 2012-Present.

Technical Program Chair

1. Communication Theory Symposium, IEEE International Conference on Wireless Communications and Signal Processing (WCSP'13), Zhejiang, Hangzhou, Oct. 23-25, 2013.
2. Communication and Signal Processing Symposium, IEEE International Wireless Communications and Mobile Computing Conference (IWCMC'13), Cagliari, Italy, Jul. 1-5, 2013.
3. Systems, Standards, and Regulations Track, IEEE International Symposium on Wireless Personal Multimedia Communications (WPMC'12), Taipei, TAIWAN, Sep. 24-27, 2012.
4. Wireless Communications Symposium, IEEE Global Communications Conference (Globecom'11), Houston, TX, Dec. 5-9, 2011.
5. IEEE International Conference on Ultra Wideband (ICUWB'11), Bologna, ITALY, Sep. 5-8, 2011.
6. Cognitive Radio and Cooperative Communications Track, IEEE Vehicular Technology Conference Spring (VTC'11), Budapest, HUNGARY, May 14-17, 2011.

7. Services & Applications Track, IEEE Wireless Communications and Networking Conference (WCNC'09), Budapest, HUNGARY, Apr. 5-8, 2009.

Publicity Chair

1. IEEE International Conference on ICT Convergence (ICTC'12), Jeju Island, KOREA, Oct. 15-17 2012.

Sponsorship Chair

1. IEEE Communications Theory Workshop (CTW'13), Phuket, THAILAND, May 2013.

Workshop Chair

1. IEEE ICC 2014 Workshop on Advances in Network Localization and Navigation (ANLN), Sydney, AUSTRALIA, Jun. 16, 2013.
2. IEEE PIMRC 2013 Workshop on Self-Organizing Networking (SON) in Heterogeneous Networks, London, UK, Sep. 7, 2013.
3. IEEE ICC 2013 Workshop on Advances in Network Localization and Navigation (ANLN), Budapest, HUNGARY, Jun. 9, 2013.
4. IEEE Globecom 2012 Fourth Workshop on Heterogeneous and Small Cell Networks (HetSNets), Anaheim, CA, Dec. 3, 2012.
5. IEEE ICC 2012 Workshop on Smart and Green Communications & Networks (SGCNet), Beijing, CHINA, Aug. 15, 2012.
6. IEEE ICC 2011 First Workshop on Heterogeneous Networks (HETnet), Kyoto, JAPAN, Jun. 6, 2011.
7. IEEE Globecom 2010 First Workshop on Femtocell Networks (FEMnet), Miami, FL, Dec. 6, 2010.

Steering Committee Member

1. IEEE Globecom 2013 Firth Workshop on Heterogeneous and Small Cell Networks (HetSNets), Atlanta, GA, Dec. 3, 2013.
2. IEEE Globecom 2011 Second Workshop on Femtocell Networks (FEMnet), Houston, TX, Dec. 5, 2011.

Technical Program Committee Member

1. IEEE European Wireless Conference (EW'14), Barcelona, SPAIN, Apr. 14-16, 2014.
2. Cognitive Radios and Networks Symposium, IEEE Global Communications Conference (Globecom'13), Atlanta, GA, Dec. 9-13, 2013.
3. Wireless Networking Symposium, IEEE Global Communications Conference (Globecom'13), Atlanta, GA, Dec. 9-13, 2013.
4. Ad-hoc and Sensor Networking Symposium, IEEE Global Communications Conference (Globecom'13), Atlanta, GA, Dec. 9-13, 2013.
5. Wireless Communications Symposium, IEEE Global Communications Conference (Globecom'13), Atlanta, GA, Dec. 9-13, 2013.
6. Communication Theory Symposium, IEEE Global Communications Conference (Globecom'13), Atlanta, GA, Dec. 9-13, 2013.

7. Signal Processing for Communications Symposium, IEEE Global Communications Conference (GlobeCom'13), Atlanta, GA, Dec. 9-13, 2013.
8. Communication Networks for Smart Grids and Smart Metering Symposium, IEEE International Conference on Smart Grid Communications (SmartGridComm'13), Vancouver, CANADA, Oct. 21-24, 2013.
9. IEEE International Conference on Wireless & Mobile Computing, Networking & Communications (WiMob'13), Lyon, FRANCE, Oct. 7-9, 2013.
10. Mobile and Wireless Networks Track, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'13), London, UK, Sep. 8-11, 2013.
11. Fundamentals and PHY Track, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'13), London, UK, Sep. 8-11, 2013.
12. Wireless Access Track, IEEE Vehicular Technology Conference Fall (VTC'13), Las Vegas, NV, Sep. 2-5, 2013.
13. Wireless Networks and Security Track, IEEE Vehicular Technology Conference Fall (VTC'13), Las Vegas, NV, Sep. 2-5, 2013.
14. IEEE Asia-Pacific Conference on Communications (APCC'13), Bali Island, INDONESIA, Aug. 29-31, 2013.
15. IEEE International Symposium on Wireless Communication Systems (ISWCS'13), Ilmenau, GERMANY, Aug. 27-30, 2013.
16. Optimization and/or Analysis in Communications, Computing, and Smart Grids Track, IEEE International Conference on Green Computing and Communications (GreenCom'13), Beijing, CHINA, Aug. 20-23, 2013.
17. Communications and Networking Track, IEEE International Conference on Green Computing and Communications (GreenCom'13), Beijing, CHINA, Aug. 20-23, 2013.
18. IEEE International Conference on Selected Topics in Mobile and Wireless Networking (MoWNet'13), Montreal, CANADA, Aug. 19-21, 2013.
19. Second Workshop on Small Cell Networks, IEEE International Conference on Communications (ICC'13), Budapest, HUNGARY, Jun. 9-13, 2013.
20. Workshop on Self-Organization in heterogeneous NETWORKS, IEEE International Conference on Communications (ICC'13), Budapest, HUNGARY, Jun. 9-13, 2013.
21. Communication Theory Symposium, IEEE International Conference on Communications (ICC'13), Budapest, HUNGARY, Jun. 9-13, 2013.
22. Wireless Communications Symposium, IEEE International Conference on Communications (ICC'13), Budapest, HUNGARY, Jun. 9-13, 2013.
23. Wireless Networking Symposium, IEEE International Conference on Communications (ICC'13), Budapest, HUNGARY, Jun. 9-13, 2013.
24. Cognitive Radios and Networks Symposium, IEEE International Conference on Communications (ICC'13), Budapest, HUNGARY, Jun. 9-13, 2013.
25. Signal Processing for Communications Symposium, IEEE International Conference on Communications (ICC'13), Budapest, HUNGARY, Jun. 9-13, 2013.
26. Wireless Networks, Access Control, and Resource Management Track, IEEE Vehicular Technology Conference Spring (VTC'13), Dresden, GERMANY, Jun. 2-5, 2013.

27. Fifth Workshop on Indoor and Outdoor Femto Cells, IEEE International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt'13), Tsukuba, JAPAN, May 13-19, 2013.
28. IEEE European Wireless Conference (EW'13), Guildford, UK, Apr. 16-18, 2013.
29. IEEE Wireless Communications and Networking Conference (WCNC'13), Shanghai, CHINA, Apr. 7-10, 2013.
30. Communication Theory Symposium, IEEE Global Communications Conference (Globecom'12), Anaheim, CA, Dec. 3-7, 2012.
31. Cognitive Radios and Networks Symposium, IEEE Global Communications Conference (Globecom'12), Anaheim, CA, Dec. 3-7, 2012.
32. IEEE International Conference on Communication Systems (ICCS'12), SINGAPORE, Nov. 21-23, 2012.
33. Wireless Communications Symposium, IEEE International Conference on Wireless Communications and Signal Processing (WCSP'12), Huangshan, CHINA, Oct. 25-27, 2012.
34. IEEE International Conference on Wireless & Mobile Computing, Networking & Communications (WiMob'12), Barcelona, SPAIN, Oct. 8-10, 2012.
35. MAC and Cross-Layer Designs Track, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'12), Sydney, AUSTRALIA, Sep. 9-12, 2012.
36. Mobile and Wireless Networks Track, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'12), Sydney, AUSTRALIA, Sep. 9-12, 2012.
37. PHY Track, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'12), Sydney, AUSTRALIA, Sep. 9-12, 2012.
38. IEEE International Symposium on Wireless Communication Systems (ISWCS'12), Paris, FRANCE, Aug. 28-31, 2012.
39. IEEE Asia Pacific Wireless Communications Symposium (APWCS'12), Kyoto, JAPAN, Aug. 23-24, 2012.
40. Communications QoS and Reliability Symposium, IEEE International Conference on Communications in China (ICCC'12), Beijing, CHINA, Aug. 15-18, 2012.
41. Wireless Communications Symposium, IEEE International Conference on Communications in China (ICCC'12), Beijing, CHINA, Aug. 15-18, 2012.
42. Communications QoS and Reliability Symposium, IEEE International Conference on Communications in China (ICCC'12), Beijing, CHINA, Aug. 15-18, 2012.
43. Second Workshop on Cooperative Heterogeneous Networks, IEEE International Conference on Computer Communication Networks (ICCCN'12), Munich, GERMANY, Jul. 30-Aug. 2, 2012.
44. IEEE International Conference on Selected Topics in Mobile & Wireless Networking (iCOST'12), Avignon, FRANCE, Jul. 4-6, 2012.
45. IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC'12), Cesme, Turkey, Jun. 17-20, 2012.
46. Workshop on SmallNets, IEEE International Conference on Communications (ICC'12), Ottawa, CANADA, Jun. 10-15, 2012.
47. Wireless Communications Symposium, IEEE International Conference on Communications (ICC'12), Ottawa, CANADA, Jun. 10-15, 2012.

48. Signal Processing for Communications Symposium, IEEE International Conference on Communications (ICC'12), Ottawa, CANADA, Jun. 10-15, 2012.
49. Cognitive Radios and Networks Symposium, IEEE International Conference on Communications (ICC'12), Ottawa, CANADA, Jun. 10-15, 2012.
50. Ad-hoc and Sensor Networking Symposium, IEEE International Conference on Communications (ICC'12), Ottawa, CANADA, Jun. 10-15, 2012.
51. Wireless Networking Symposium, IEEE International Conference on Communications (ICC'12), Ottawa, CANADA, Jun. 10-15, 2012.
52. Communication Theory Symposium, IEEE International Conference on Communications (ICC'12), Ottawa, CANADA, Jun. 10-15, 2012.
53. Cooperative Communications, distributed MIMOs and Relaying Track, IEEE Vehicular Technology Conference Spring (VTC'12), Yokohama, JAPAN, May 6-9, 2012.
54. Workshop on Broadband Femtocell Technologies, IEEE Wireless Communications and Networking Conference (WCNC'12), Paris, FRANCE, Apr. 1-4, 2012.
55. Workshop on Green Future Communications, IEEE Wireless Communications and Networking Conference (WCNC'12), Paris, FRANCE, Apr. 1-4, 2012.
56. PHY Track, IEEE Wireless Communications and Networking Conference (WCNC'12), Paris, FRANCE, Apr. 1-4, 2012.
57. MAC Track, IEEE Wireless Communications and Networking Conference (WCNC'12), Paris, FRANCE, Apr. 1-4, 2012.
58. Mobile & Wireless Track, IEEE Wireless Communications and Networking Conference (WCNC'12), Paris, FRANCE, Apr. 1-4, 2012.
59. Cognitive Computing and Networking, IEEE International Conference on Computing, Networking and Communication (ICNC'12), Maui, HA, Jan. 30-February 2, 2012.
60. IEEE Radio and Wireless Symposium (RWS'12), Santa Clara, CA, Jan. 15-19, 2012.
61. Cognitive Radios and Networks Symposium, IEEE Global Communications Conference (Globecom'11), Houston, TX, Dec. 5-9, 2011.
62. Communication Theory Symposium, IEEE Global Communications Conference (Globecom'11), Houston, TX, Dec. 5-9, 2011.
63. IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob'11), Shanghai, CHINA, Oct. 10-12, 2011.
64. IEEE International Conference on Selected Topics in Mobile & Wireless Networking (iCOST'11), Shanghai, CHINA, Oct. 10-12, 2011.
65. IEEE International Conference on ICT Convergence (ICTC'11), Seoul, KOREA, Sep. 28-30, 2011.
66. Cognitive Radio and Spectrum Management Track, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'11), Toronto, CANADA, Sep. 11-14, 2011.
67. First Workshop on Cooperative Heterogeneous Networks, IEEE International Conference on Computer Communication Networks (ICCCN'11), Maui, HA, Jul. 31-Aug. 4, 2011.
68. Workshop on Streaming and Media Communications, IEEE International Conference on Multimedia and Expo (ICME'11), Barcelona, SPAIN, Jul. 11-15, 2011.

69. Communication Theory Symposium, IEEE International Conference on Communications (ICC'11), Kyoto, JAPAN, Jun. 6-9, 2011.
70. Wireless Communications Symposium, IEEE International Conference on Communications (ICC'11), Kyoto, JAPAN, Jun. 6-9, 2011.
71. Signal Processing for Communications Symposium, IEEE International Conference on Communications (ICC'11), Kyoto, JAPAN, Jun. 6-9, 2011.
72. Cognitive Radios and Networks Symposium, IEEE International Conference on Communications (ICC'11), Kyoto, JAPAN, Jun. 6-9, 2011.
73. Wireless Networking Symposium, IEEE International Conference on Communications (ICC'11), Kyoto, JAPAN, Jun. 6-9, 2011.
74. International ICST Conference on Cognitive Radio Oriented Wireless Networks (Crowncom'11), Yokohama, JAPAN, May 31-Jun. 3, 2011.
75. Signal Processing for Communications and Networking Track, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP'11), Prague, CZECH, May 22-27, 2011.
76. First International Workshop on Cross-Layer Operation Aided Multimedia Streaming, IEEE Vehicular Technology Conference Spring (VTC'11), Budapest, HUNGARY, May 14-17, 2011.
77. Cognitive Radio and Cooperative Communications Track, IEEE Vehicular Technology Conference Spring (VTC'11), Budapest, HUNGARY, May 14-17, 2011.
78. Third Workshop on Indoor and Outdoor Femto Cells, IEEE International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt'11), Princeton, NJ, May 9-13, 2011.
79. PHY Track, IEEE Wireless Communications and Networking Conference (WCNC'11), Quintana-Roo, MEXICO, Mar. 28-31, 2011.
80. MAC Track, IEEE Wireless Communications and Networking Conference (WCNC'11), Quintana-Roo, MEXICO, Mar. 28-31, 2011.
81. IEEE Workshop on Wireless Systems: Advanced Research and Development (WISARD'11), Bangalore, INDIA, Jan. 4-5, 2011.
82. Signal Processing for Communications Symposium, IEEE Global Communications Conference (GlobeCom'10), Miami, FL, Dec. 6-10, 2010.
83. IEEE International Conference on ICT Convergence (ICTC'10), Jeju Island, KOREA, Nov. 17-19, 2010.
84. IEEE International Symposium on Information Theory and its Applications (ISITA'10), Taichung, TAIWAN, Oct. 17-20, 2010.
85. IEEE International Symposium on Spread Spectrum Techniques and Applications (ISSSTA'10), Taichung, TAIWAN, Oct. 17-20, 2010.
86. International Workshop on Green Wireless, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'10), Istanbul, TURKEY, Sep. 26-30, 2010.
87. IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'10), Istanbul, TURKEY, Sep. 26-30, 2010.
88. IEEE International Conference on Communications and Electronics (ICCE'10), Nha Trang, VIETNAM, Aug. 11-13, 2010.
89. Wireless Communications Symposium, IEEE International Conference on Communications (ICC'10), Cape Town, SOUTH AFRICA, May 23-27, 2010.

90. Signal Processing for Communications Symposium, IEEE International Conference on Communications (ICC'10), Cape Town, SOUTH AFRICA, May 23-27, 2010.
91. Multiple Antenna Systems and Space-time Processing Track, IEEE Vehicular Technology Conference Spring (VTC'10), Taipei, TAIWAN, May 16-19, 2010.
92. PHY Track, IEEE Wireless Communications and Networking Conference (WCNC'10), Sydney, AUSTRALIA, Apr. 18-21, 2010.
93. European Wireless Conference (EW'10), Lucca, ITALY, Apr. 12-15, 2010.
94. Wireless Communications Symposium, IEEE Global Communications Conference (Globecom'09), Honolulu, HA, Nov. 30-Dec. 4, 2009.
95. Signal Processing for Communications Symposium, IEEE Global Communications Conference (Globecom'09), Honolulu, HA, Nov. 30-Dec. 4, 2009.
96. IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'09), Tokyo, JAPAN, Sep. 13-16, 2009.
97. IEEE International Conference on Advanced Infocomm Technology (ICAIT'09), Xi-An, CHINA, Jul. 7-9, 2009.
98. Wireless Communications Symposium, IEEE International Conference on Communications (ICC'09), Dresden, GERMANY, Jun. 14-18, 2009.
99. Wireless Networking Symposium, IEEE International Conference on Communications (ICC'09), Dresden, GERMANY, Jun. 14-18, 2009.
100. Multiple Antenna Systems and Space-time Processing Track, IEEE Vehicular Technology Conference Spring (VTC'09), Barcelona, SPAIN, Apr. 26-29, 2009.
101. PHY Track, IEEE Wireless Communications and Networking Conference (WCNC'09), Budapest, HUNGARY, Apr. 5-8, 2009.
102. Services & Applications Track, IEEE Wireless Communications and Networking Conference (WCNC'09), Budapest, HUNGARY, Apr. 5-8, 2009.
103. Signal Processing for Communications Symposium, IEEE Global Communications Conference (Globecom'08), New Orleans, LA, Nov. 30-Dec. 4, 2008.
104. IEEE International Conference on Communications Systems (ICCS'08), Guangzhou, CHINA, Nov. 19-21, 2008.
105. Fundamentals & PHY Track, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'08), Cannes, FRANCE, Sep. 15-18, 2008.
106. MIMO Systems Symposium, IEEE International Wireless Communications & Mobile Computing Conference (IWCMC'08), Crete Island, GREECE, Aug. 6-8, 2008.
107. IEEE International Conference on Advanced Infocomm Technology (ICAIT'08), Shenzhen, CHINA, Jul. 28-31, 2008.
108. Wireless Networking Symposium, IEEE International Conference on Communications (ICC'08), Beijing, CHINA, May 19-23, 2008.
109. General Track, IEEE Vehicular Technology Conference Spring (VTC'08), SINGAPORE, May 11-14, 2008.
110. Wireless Communications Symposium, IEEE International Conference on Communications (ICC'07), Glasgow, SCOTLAND, Jun. 24-28, 2007.

111. IEEE International Conference on Ultra Wideband (ICUWB'06), Boston, MA, Sep. 24-27, 2006.
112. Communication Theory Symposium, IEEE International Conference on Communications (ICC'04), Paris, FRANCE, Jun. 20-24, 2004.

Session Chair

1. *Energy Efficiency II*, IEEE Wireless Communications and Networking Conference (WCNC'13), Shanghai, CHINA, Apr. 7-10, 2013.
2. *Multiple Antenna Techniques*, IEEE Globecom 2012 Fourth Workshop on Heterogeneous and Small Cell Networks (HetSNets), Anaheim, CA, Dec. 3, 2012.
3. *Heterogeneous Networks and Small Cells*, IEEE International Conference on Communication Systems (ICCS'12), SINGAPORE, Nov. 21-23, 2012.
4. *M2M and D2D Communications*, IEEE International Symposium on Wireless Personal Multimedia Communications (WPMC'12), Taipei, TAIWAN, Sep. 24-27, 2012.
5. *Wireless Networks I*, IEEE Wireless Communications and Networking Conference (WCNC'12), Paris, FRANCE, Apr. 1-4, 2012.
6. *Mobile Communications II*, IEEE International Conference on ICT Convergence (ICTC'11), Seoul, KOREA, Sep. 28-30, 2011.
7. *Self-Configuration Techniques*, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'11), Toronto, CANADA, Sep. 11-14, 2011.
8. *Spectrum Sensing, Access and Management*, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'11), Toronto, CANADA, Sep. 11-14, 2011.
9. *Interference Management for Advanced Wireless Networks*, Asia Pacific Wireless Communications Symposium (APWCS'11), SINGAPORE, Aug. 25-26, 2011.
10. *System Analysis of Femtocell Networks*, IEEE Globecom 2010 Workshop on Femtocell Networks (FEMnet), Miami, FL, Dec. 6, 2010.
11. *Relay Channels*, IEEE International Symposium on Spread Spectrum Techniques and Applications (ISSSTA'10), Taichung, TAIWAN, Oct. 17-20, 2010.
12. *Cognitive Radio III*, IEEE Wireless Communications and Networking Conference (WCNC'10), Sydney, AUSTRALIA, Apr. 18-21, 2010.
13. *Topics in Communication Theory*, IEEE Global Communications Conference (Globecom'09), Honolulu, HA, Nov. 30-Dec. 4, 2009.
14. *Cooperative Communication: Beamforming*, IEEE Global Communications Conference (Globecom'09), Honolulu, HA, Nov. 30-Dec. 4, 2009.
15. *Interference Analysis and Mitigation*, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'09), Tokyo, JAPAN, Sep. 13-16, 2009.
16. *Cooperative Systems*, IEEE Vehicular Technology Conference Spring (VTC'08), SINGAPORE, May 11-14, 2008.
17. *Cooperative Communications*, IEEE International Conference on Communications (ICC'07), Glasgow, SCOTLAND, Jun. 24-28, 2007.
18. *Wireless Ad Hoc and Sensor Networks*, IEEE International Conference on Communications (ICC'07), Glasgow, SCOTLAND, Jun. 24-28, 2007.

19. *Diversity*, IEEE International Conference on Ultra Wideband (ICUWB'06), Boston, MA, Sep. 24-27, 2006.

Affiliations

- IEEE Senior Member
- IEEE Communications Society Member
- IEEE Signal Processing Society Member

Books

1. T. Q. S. Quek, G. de la Roche, I. Guvenc, and M. Kountouris, "Small Cell Networks: Deployment, PHY Techniques, and Resource Allocation," Cambridge University Press, 2013.

Book Chapters

1. T. Q. S. Quek and M. Kountouris, "Interference Modeling and Spectrum Allocation in Two-Tier Networks," in *Heterogeneous Cellular Networks - Theory, Simulation, and Deployment*, Cambridge University Press, 2013.
2. A. Rabbachin, T. Q. S. Quek, H. Shin, and M. Z. Win, "Interference Modeling for Cognitive Femtocells," in *Small Cell Networks: Deployment, PHY Techniques, and Resource Allocation*, Cambridge University Press, 2013.
3. T. Q. S. Quek, G. de la Roche, I. Guvenc, and M. Kountouris, "Overview of small cell networks," in *Small Cell Networks: Deployment, PHY Techniques, and Resource Allocation*, Cambridge University Press, 2013.
4. W. W. L. Ho, T. Q. S. Quek, and R. W. Heath Jr., "Distributed multicell precoding for network MIMO," in *Cognitive Radio and Interference Management: Technology and Strategy*, IGI Global, 2012.

Journal Papers (Published/Submitted)

1. D. Chen, T. Q. S. Quek, and M. Kountouris, "Backhauling in Heterogeneous Cellular Networks - Modeling and Tradeoffs," *IEEE Trans. Wireless Commun.*, [submitted](#).
2. Y. Li, Mugen Peng, and T. Q. S. Quek, "Performance Analysis of Subchannel Allocation Schemes for Device-to-Device Underlay Communication in Downlink Cellular Networks," *IEEE Trans. Vehicular Technology*, [submitted](#).
3. S. Lakshminarayana and T. Q. S. Quek, "Energy Harvesting Networks with Dynamic Channel Acquisition," *IEEE Trans. Commun.*, [submitted](#).
4. Y. Yang, T. Q. S. Quek, and L. J. Duan, "Backhaul-Constrained Small Cell Networks: Refunding, QoS Provisioning, and Optimization," *IEEE Trans. Wireless Commun.*, [submitted](#).
5. N. J. Chen, C. W. Tan, and T. Q. S. Quek, "Electric Vehicle Charging in Smart Grid: Optimality and Valley-Filling Algorithms," *IEEE Trans. Smart Grid*, [submitted](#).
6. J. Lee, T. Q. S. Quek, and D.-I. Kim, "Device-to-Device Communication Provided Cellular Network Secrecy," *IEEE J. Select. Areas Commun.*, [submitted](#) (**Special Issue on Device-to-Device Communications in Cellular Networks**)
7. Y. Jeong, T. Q. S. Quek, and H. Shin, "Multicasting in Stochastic MIMO Network," *IEEE Trans. Wireless Commun.*, revised, Feb. 2013. [revision](#)

8. Y. S. Soh, T. Q. S. Quek, M. Kountouris, and G. Caire, "Cognitive Hybrid Division Duplex for Two-Tier Femtocell Networks," *IEEE Trans. Wireless Commun.*, vol. 12, no. , pp. –, 2013.
9. M. Wildemeersch, T. Q. S. Quek, A. Rabbachin, and C. H. Slump, "Cognitive Small Cell Networks: Energy Efficiency and Trade-Offs," *IEEE Trans. Commun.*, 2013.
10. T. M. Nguyen, Y. Jeong, T. Q. S. Quek, W. P. Tay and H. Shin, "Interference Alignment in a Poisson Field of MIMO Femtocells," *IEEE Trans. Wireless Commun.*, vol. 12, no. 6, pp. 2633–2645, Jun. 2013.
11. J. Zhao, T. Q. S. Quek, and Z. Lei, "Coordinated Multipoint Transmission with Limited Backhaul Data Transfer Constraints," *IEEE Trans. Wireless Commun.*, vol. 12, no. 6, pp. 2762–2775, Jun. 2013.
12. D. W. Soh, W. P. Tay, and T. Q. S. Quek, "Randomized Information Dissemination in Dynamic Environments," *IEEE/ACM Trans. Networking*, vol. 21, no. 3, pp. 681–691, Jun. 2013.
13. Y. S. Soh, T. Q. S. Quek, M. Kountouris, and H. Shin, "Energy Efficient Heterogeneous Cellular Networks," *IEEE J. Select. Areas Commun.*, vol. 31, no. 5, pp. 840–850, May 2013. (**Special Issue on Spectrum and Energy Efficient Design of Wireless Communication Networks**)
14. J. Wang, A. Huang, W. Wang, and T. Q. S. Quek, "Admission Control in Cognitive Radio Networks with Finite Queue and User Impatience," *IEEE Wireless Commun. Letters*, vol. 2, no. 2, pp. 175–178, Apr. 2013.
15. T. Luo, H.-P. Tan and T. Q. S. Quek, "Sensor OpenFlow: Enabling Software-Defined Wireless Sensor Networks," *IEEE Commun. Letters*, vol. 16, no. 11, pp. 1896–1899, Nov. 2012.
16. D. W. H. Cai, T. Q. S. Quek, C. W. Tan, and S. Low, "Max-Min SINR Coordinated Multipoint Downlink Transmission - Duality and Algorithms," *IEEE Trans. Signal Processing*, vol. 60, no. 10, pp. 5384–5395, Oct. 2012.
17. T. V. Nguyen, H. Shin, T. Q. S. Quek, and M. Z. Win, "Sensing and Probing Cardinalities for Active Cognitive Radios," *IEEE Trans. Signal Processing*, vol. 60, no. 4, pp. 1833–1848, Apr. 2012.
18. W. C. Cheung, T. Q. S. Quek, and M. Kountouris, "Throughput Optimization, Spectrum Allocation, and Access Control in Two-Tier Femtocell Networks," *IEEE J. Select. Areas Commun.*, vol. 30, no. 3, pp. 561–574, Apr. 2012. (**Special Issue on Femtocell Networks**)
19. T. Q. S. Quek, K. Woradit, H. Shin, and Z. Lei, "Uplink Coordinated Multi-point ARQ in MIMO Cellular Systems," *IEICE Trans Commun.*, vol. E94-B, no. 12, pp. 3211–3224, Dec. 2011. (**Special Issue on Cooperative Communications for Cellular Networks - Invited Paper**)
20. P. Tarasak, T. Q. S. Quek, and F. P. S. Chin, "Uplink Timing Misalignment in Open and Closed Access OFDMA Femtocell Networks," *IEEE Commun. Lett.*, vol. 15, no. 9, pp. 926–928, Sep. 2011.
21. Y. Jeong, T. Q. S. Quek, and H. Shin, "Beamforming Optimization for Multiuser Two-Tier Networks," *J. Commun. and Networks*, vol. 13, no. 4, pp. 327–338, Aug. 2011. (**Special Issue on Heterogeneous Networks - Invited Paper**)
22. D. W. H. Cai, T. Q. S. Quek, and C. W. Tan, "A Unified Analysis of Max-Min Weighted SIR for MIMO Downlink System," *IEEE Trans. Signal Processing*, vol. 59, no. 8, pp. 3850–3862, Aug. 2011.
23. D. Lopez-Perez, I. Guvenc, G. de la Roche, M. Kountouris, T. Q. S. Quek, and J. Zhang, "Enhanced Inter-Cell Interference Coordination Challenges in Heterogeneous Networks," *IEEE Wireless Commun. Mag.*, vol. 18, no. 3, pp. 22–30, Jun. 2011. (**Special Issue on HetNets**)
24. W. W. L. Ho, T. Q. S. Quek, S. Sun, and R. W. Heath Jr., "Decentralized Precoding for Multicell MIMO Downlink," *IEEE Trans. Wireless Commun.*, vol. 10, no. 6, pp. 1798–1809, Jun. 2011.
25. U. Sethakaset, T. Q. S. Quek, and S. Sun, "Joint Source-Channel Optimization over Wireless Relay Networks," *IEEE Trans. Commun.*, vol. 59, no. 4, pp. 1114–1122, Apr. 2011.

26. A. Rabbachin, T. Q. S. Quek, H. Shin, and M. Z. Win, "Cognitive Network Interference," *IEEE J. Select. Areas Commun.*, vol. 29, no. 2, pp. 480–493, Feb. 2011. (**Special Issue on Advances in Cognitive radio Networking and Communications**)
27. A. Rabbachin, T. Q. S. Quek, P. Pinto, I. Oppermann, and M. Z. Win, "Non-Coherent UWB Communications in the Presence of Multiple Narrowband Interferers," *IEEE Trans. Wireless Commun.*, vol. 9, no. 11, pp. 3365–3379, Nov. 2010.
28. H. Q. Ngo, T. Q. S. Quek, and H. Shin, "Amplify-and-Forward Two-Way Relay Networks: Error Exponents and Resource Allocation," *IEEE Trans. Commun.*, vol. 58, no. 9, pp. 2653–2666, Sep. 2010.
29. T. Q. S. Quek, M. Z. Win, and M. Chiani, "Robust Power Allocation Algorithms for Wireless Relay Networks," *IEEE Trans. Commun.*, vol. 58, no. 7, pp. 1931–1938, Jul. 2010.
30. T. Q. S. Quek and H. Shin, "Bursty Relay Networks in Low-SNR Regimes," *IEEE Trans. Commun.*, vol. 58, no. 2, pp. 694–705, Feb. 2010.
31. H. Q. Ngo, T. Q. S. Quek, and H. Shin, "Random Coding Error Exponent for Dual-Hop Nakagami-m Fading Channels with Amplify-and-Forward Relaying," *IEEE Commun. Letters*, vol. 13, no. 11, pp. 823–825, Nov. 2009.
32. K. Woradit, T. Q. S. Quek, W. Suwansantisuk, H. A. Wymeersch, L. Wuttisittikulij, and M. Z. Win, "Outage Behavior of Selective Relaying Schemes," *IEEE Trans. Wireless Commun.*, vol. 8, no. 8, pp. 3890–3895, Aug. 2009.
33. T. Q. S. Quek, H. Shin, and M. Z. Win, "Robust Wireless Relay Networks: Slow Power Allocation with Guaranteed QoS," *IEEE J. Select. Topics Signal Processing*, vol. 1, no. 4, pp. 700–713, Dec. 2007. (**Special Issue on Convex Optimization Methods for Signal Processing**)
34. T. Q. S. Quek, M. Z. Win, and D. Dardari, "Unified Analysis of UWB Transmitted-Reference Schemes in the Presence of Narrowband Interference," *IEEE Trans. Wireless Commun.*, vol. 6, no. 6, pp. 2126–2139, Jun. 2007.
35. T. Q. S. Quek, D. Dardari, and M. Z. Win, "Energy Efficiency of Dense Wireless Sensor Networks: To Cooperate or Not to Cooperate," *IEEE J. Select. Areas Commun.*, vol. 25, no. 2, pp. 459–470, Feb. 2007. (**Special Issue on Cooperative Communications and Networking**)
36. T. Q. S. Quek and M. Z. Win, "Analysis of UWB Transmitted-Reference Communication Systems in Dense Multipath Channels," *IEEE J. Select. Areas Commun.*, vol. 23, no. 9, pp. 1863–1874, Oct. 2005. (**Special Issue on Differential and Noncoherent Wireless Communications**)
37. T. Q. S. Quek, H. Suzuki, and K. Fukawa, "Multiple finger expansion for blind interference canceller in the presence of subchip-spaced multipath components," *J. Commun. and Networks*, vol. 6, no. 1, pp. 26–34, Mar. 2004.
38. Q. S. Quek and H. Suzuki, "A blind adaptive receiver with decision-directed steering vector for DS-CDMA downlink," *IEICE Trans. Commun.*, vol. E83-B, no. 8, pp. 1656–1663, Aug. 2000.

Refereed Conference Proceedings

1. L. Z. Wong, T. Q. S. Quek, M. Pidila, and H. P. Tan, "A potential game framework for approximate optimal pricing and algorithms in heterogeneous networks," *Proc. IEEE Infocom*, Vancouver, CANADA, May 2014, submitted.
2. J. Zhao, T. Q. S. Quek, and Z. Lei, "Uplink User Admission Under Sum and Per-User Power Constraints Using Convex Relaxation," in *Proc. IEEE Global Telecommun. Conf.*, Atlanta, GA, Dec. 2013, pp. –.

3. S. E. Nai and T. Q. S. Quek, "Slow Power Control for Green Small Cell Networks," in *Proc. IEEE Global Telecommun. Conf.*, Atlanta, GA, Dec. 2013, submitted.
4. S. Lakshminarayana and T. Q. S. Quek, "Energy Harvesting Networks with Dynamic Channel Acquisition," in *Proc. IEEE Asilomar Conf. on Signals, Systems, and Computers*, Pacific Grove, CA, Nov. 2013, submitted.
5. D. Chen, T. Q. S. Quek, and M. Kountouris, "Backhauling in Heterogeneous Cellular Networks," in *Proc. IEEE Int. Conf. on Wireless Commun. and Signal Processing*, Hangzhou, CHINA, Oct. 2013, pp. –.
6. Y. Yang, T. Q. S. Quek, and L. Duan, "Refunding for Small Cell Networks with Limited-Capacity Backhaul," in *Proc. IEEE Int. Conf. on Commun. in China*, Xi-an, CHINA, Aug. 2013, pp. –.
7. M. Wildemeersch, T. Q. S. Quek, M. Kountouris, and C. H. Slump, "Successive Interference Cancellation in Uplink Cellular Networks," in *Proc. IEEE Int. Workshop on Signal Processing Adv. in Wireless Commun.*, Darmstadt, GERMANY, Jun. 2013, pp. –. [Student Best Paper Award](#)
8. M. Wildemeersch, A. Rabbachin, T. Q. S. Quek, and C. H. Slump, "GNSS Signal Acquisition in Harsh Urban Environments," in *Proc. IEEE Int. Conf. on Commun.*, Budapest, HUNGARY, Jun. 2013, pp. –.
9. J. Zhao, T. Q. S. Quek, and Z. Lei, "Clustering Method for CoMP with Limited Backhaul Data Transfer using Convex Relaxation," in *Proc. IEEE Int. Conf. on Commun.*, Budapest, HUNGARY, Jun. 2013, pp. –.
10. Y. S. Soh, T. Q. S. Quek, and M. Kountouris, "Dynamic Sleep Mode Strategies in Energy Efficient Cellular Networks," in *Proc. IEEE Int. Conf. on Commun.*, Budapest, HUNGARY, Jun. 2013, pp. –.
11. M. Wildemeersch, T. Q. S. Quek, A. Rabbachin, C. H. Slump, and A. Huang, "Energy Efficient Design of Cognitive Small Cells," in *Proc. IEEE Int. Conf. on Commun.*, Budapest, HUNGARY, Jun. 2013, pp. –.
12. T. V. Nguyen, T. Q. S. Quek, and H. Shin, "Stochastic Wireless Secure Multicasting," in *Proc. IEEE Int. Conf. on Commun.*, Budapest, HUNGARY, Jun. 2013, pp. –.
13. G. Zhang, A. Huang, J. Wang, H. Shan, and T. Q. S. Quek, "Hopping-Based Channel Access in Cognitive Systems," in *Proc. IEEE Veh. Technol. Conf. Spring*, Dresden, GERMANY, May 2013, pp. –.
14. Y. Yang, T. Q. S. Quek, and L. Duan, "Backhaul-Constrained Optimization for Hybrid Access Small Cells," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Vancouver, CANADA, May. 2013, pp. –.
15. M. Rostami, N.-M. Cheung, and T. Q. S. Quek, "Compressed Sensing of Diffusion Fields under Heat Equation Constraint," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Vancouver, CANADA, May. 2013, pp. –.
16. S. E. Nai, T. Q. S. Quek, M. Debbah, and A. Huang, "Slow Admission and Power Control for Small Cell Networks via Distributed Optimization," in *Proc. IEEE Wireless Commun. Networking Conf.*, Shanghai, CHINA, Apr. 2013, pp. –.
17. J. Zhao, T. Q. S. Quek, and Z. Lei, "Semi-Distributed Clustering Method for CoMP with Limited Backhaul Data Transfer," in *Proc. IEEE Wireless Commun. Networking Conf.*, Shanghai, CHINA, Apr. 2013, pp. –.
18. M. Wildemeersch, T. Q. S. Quek, A. Rabbachin, C. H. Slump, and A. Huang, "Performance Limits for Cognitive Small Cells," in *Proc. IEEE Wireless Commun. Networking Conf.*, Shanghai, CHINA, Apr. 2013, pp. –.
19. T. V. Nguyen, T. Q. S. Quek, H. Shin, and Y. H. Kim, "Secrecy Diversity in MISOME Wiretap Channels," in *Proc. IEEE Global Telecommun. Conf.*, Anaheim, CA, Dec. 2012, pp. –.

20. Y. S. Soh, T. Q. S. Quek, M. Kountouris, and G. Caire, "Flexible Duplex for Cognitive Femtocells in Two-Tier Networks," in *Proc. IEEE Global Telecommun. Conf.*, Anaheim, CA, Dec. 2012, pp. –.
21. N. J. Chen, T. Q. S. Quek, and C. W. Tan, "Optimal Charging of Electric Vehicles in Smart Grid: Characterization and Valley-Filling Algorithms," in *Proc. IEEE Int. Conf. on Smart Grid Commun.*, Tainai, TAIWAN, Nov. 2012, pp. –.
22. T. Q. S. Quek, Y. S. Soh, and M. Kountouris, "Hybrid Division Duplex for Cognitive Small Cells Networks," in *Proc. IEEE Int. Symp. on Wireless Personal Multimedia Commun.*, Taipei, TAIWAN, Sep. 2012, pp. 609–613.
23. S. E. Nai, T. Q. S. Quek, and M. Debbah, "Shadowing Time-Scale Admission and Power Control for Small Cell Networks," in *Proc. IEEE Int. Symp. on Wireless Personal Multimedia Commun.*, Taipei, TAIWAN, Sep. 2012, pp. 628–632.
24. T. V. Nguyen, H. Shin, T. Q. S. Quek, and M. Z. Win, "Optimal Active Sensing in Heterogeneous Cognitive Radio Networks," in *Proc. IEEE Int. Symp. on Information Theory*, Cambridge, MA, Jul. 2012, pp. 1802–1806.
25. T. V. Nguyen, T. Q. S. Quek, and H. Shin, "Switched Power Allocation for MISOME Wiretap Channels," in *Proc. IEEE Int. Symp. on Information Theory*, Cambridge, MA, Jul. 2012, pp. 2326–2330.
26. T. M. Nguyen, T. Q. S. Quek, and H. Shin, "Opportunistic Interference Alignment in MIMO Femtocell Networks," in *Proc. IEEE Int. Symp. on Information Theory*, Cambridge, MA, Jul. 2012, pp. 2631–2635.
27. W. C. Cheung, T. Q. S. Quek, and M. Kountouris, "Spectrum Allocation and Optimization in Femtocell Networks," in *Proc. IEEE Int. Conf. on Commun.*, Ottawa, CANADA, Jun. 2012, pp. 2473–2478.
28. P. Tarasak, S. E. Nai, T. Q. S. Quek, and F. Chin, "Location-Based Transmit Power Control for Femtocell Access Points," in *Proc. IEEE Int. Conf. on Commun.*, Ottawa, CANADA, Jun. 2012, pp. 6840–6844.
29. T. M. Nguyen, T. Q. S. Quek, and H. Shin, "Network Throughput and Energy Efficiency in MIMO Femtocells," in *Proc. IEEE European Wireless Conf.*, Poznan, POLAND, Apr. 2012, pp. 1–5, **Invited Paper**.
30. W. C. Cheung, T. Q. S. Quek, and M. Kountouris, "Access Control and Cell Association in Two-Tier Femtocell Networks," in *Proc. IEEE Wireless Commun. Networking Conf.*, Paris, FRANCE, Apr. 2012, pp. 893–897.
31. M. Leng, W. P. Tay, and T. Q. S. Quek, "Cooperative and Distributed Localization for Wireless Sensor Networks in Multipath Environments," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Kyoto, JAPAN, Mar. 2012, pp. 3125–3128.
32. S. E. Nai and T. Q. S. Quek, "Coexistence in Two-Tier Femtocell Networks: Cognition and Optimization," in *Proc. IEEE Int. Conf. Computing, Networking and Commun.*, Maui, HA, Jan. 2012, pp. 655–659, **Invited Paper**.
33. M. Leng, W. P. Tay, and T. Q. S. Quek, "Cooperative and Distributed Localization for Wireless Sensor Networks in Multipath Environments," in *Proc. IEEE Int. Conf. Information, Commun., and Signal Processing*, Singapore, Dec. 2011, pp. 1–5.
34. Y. Jeong, T. Q. S. Quek, and H. Shin, "Semi-decentralized Beamforming Coordination for Multiuser Two-Tier Networks," in *Proc. IEEE Int. Conf. Signal Processing and Commun. Systems*, Honolulu, HA, Dec. 2011, pp. 1–7.
35. D. W. Soh, T. Q. S. Quek, and W. P. Tay, "Randomized Rumor Spreading in Non-Static Networks," in *Proc. IEEE Int. Conf. on ICT Convergence*, Seoul, KOREA, Sep. 2011, pp. 156–160, **Invited Paper**.

36. P. Tarasak and T. Q. S. Quek, "Throughput and Fairness of Femtocell Users in OFDM Macrocell-Femtocell Networks," in *Proc. IEEE Int. Symp. Personal, Indoor and Mobile Radio Commun.*, Toronto, CANADA, Sep. 2011, pp. 202–206.
37. T. V. Nguyen, H. Shin, T. Q. S. Quek, and M. Z. Win, "Optimal Energy Tradeoff for Active Sensing in Cognitive Radio Networks," in *Proc. IEEE Int. Symp. Personal, Indoor and Mobile Radio Commun.*, Toronto, CANADA, Sep. 2011, pp. 326–330.
38. X. Chu, T. T. Ng, T. Q. S. Quek, and T. Huang, "Compressive Inverse Light Transport," in *Proc. British Machine Vision Conf.*, Dundee, UK, Aug. 2011.
39. D. W. Soh, T. Q. S. Quek, and W. P. Tay, "Randomized Broadcast in Dynamic Network Environments," in *Proc. IEEE Int. Workshop on Signal Processing Adv. in Wireless Commun.*, San Francisco, CA, Jun. 2011, pp. 526–530.
40. A. Rabbachin, T. Q. S. Quek, H. Shin, and M. Z. Win, "Cognitive Network Interference - Modeling and Applications," in *Proc. IEEE Int. Conf. on Commun.*, Kyoto, JAPAN, Jun. 2011, pp. 1–6.
41. D. W. H. Cai, T. Q. S. Quek, and C. W. Tan, "Coordinated Max-Min SIR Optimization in Multicell Downlink - Duality and Algorithm," in *Proc. IEEE Int. Conf. on Commun.*, Kyoto, JAPAN, Jun. 2011, pp. 1–6.
42. W. C. Cheung, T. Q. S. Quek, and M. Kountouris, "Stochastic Analysis of Two-Tier Networks: Effect of Spectrum Allocation," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Prague, CZECH, May 2011, pp. 2964–2967.
43. R. Mo, T. Q. S. Quek, and R. W. Heath Jr., "Robust Beamforming and Power Control for Two-Tier Femtocell Networks," in *Proc. IEEE Veh. Technol. Conf. Spring*, Budapest, HUNGARY, May 2011, pp. 1–5.
44. D. W. H. Cai, T. Q. S. Quek, C. W. Tan, and S. Low, "Max-Min Weighted SIR in Coordinated Multicell MIMO Downlink," in *Proc. IEEE Int. Symp. of Modeling and Optimization of Mobile, Ad Hoc, and Wireless Networks*, Princeton, NJ, May 2011, pp. 286–293.
45. T. Q. S. Quek, W. C. Cheung, and M. Kountouris, "Energy Efficiency Analysis of Two-Tier Heterogeneous Networks," in *Proc. IEEE European Wireless Conf.*, Vienna, Austria, Apr. 2011, pp. 1–5, **Invited Paper**.
46. A. Rabbachin, T. Q. S. Quek, and M. Z. Win, "Statistical Modeling of Cognitive Network Interference," in *Proc. IEEE Global Telecommun. Conf.*, Miami, FL, Dec. 2010, pp. 1–6. **Best Paper Award**
47. P. Tarasak, T. Q. S. Quek, and F. P. S. Chin, "Closed Access Femtocells under Timing Misalignment," in *Proc. IEEE Global Telecommun. Conf.*, Miami, FL, Dec. 2010, pp. 1–5.
48. Z. Lei, F. P. S. Chin, T. Q. S. Quek, and E. K. S. Au, "Cell collaborative zones for 4G cellular systems," in *Proc. IEEE Global Telecommun. Conf.*, Miami, FL, Dec. 2010, pp. 726–730.
49. R. Mo, Y. H. Chew, T. Q. S. Quek, and C. Chen, "Distributed Precoding Design for MIMO Interference Channels," in *Proc. IEEE Int. Symp. on Information Theory and its Applications*, Taichung, TAIWAN, Oct. 2010, pp. 885–889.
50. Y. Jeong, T. Q. S. Quek, and H. Shin, "Downlink Beamforming Optimization for Cognitive Underlay Networks," in *Proc. IEEE Int. Symp. on Information Theory and its Applications*, Taichung, TAIWAN, Oct. 2010, pp. 934–939.
51. A. Rabbachin, G. Baldini, and T. Q. S. Quek, "Aggregate Interference in White Spaces," in *Proc. IEEE Int. Symp. on Wireless Commun. Sys.*, York, UK, Sep. 2010, pp. 751–755.

52. H. H. Peh, T. T. Tjhung, F. Adachi, and T. Q. S. Quek, "Graphical Demonstration of the Coherent Demodulation of GMSK," in *Proc. IEEE Int. Conf. on Commun. and Electronics*, Nha Trang, VIETNAM, Aug. 2010, pp. 1–5, **Invited Paper**.
53. K. Woradit, T. Q. S. Quek, and Z. Lei, "Cooperative Multicell ARQ in MIMO Cellular Systems," in *Proc. IEEE Int. Workshop on Signal Processing Adv. in Wireless Commun.*, Marrakech, MOROCCO, Jun. 2010, pp. 265–269.
54. D. W. H. Cai, T. Q. S. Quek, and C. W. Tan, "Max-min SIR for MIMO Downlink Channel: Optimality and Algorithms," in *Proc. IEEE Int. Symp. on Information Theory*, Austin, TX, Jun. 2010, pp. 2118–2122.
55. U. Sethakaset, T. Q. S. Quek, S. Sun, and P. Tarasak, "Distortion Behavior of Amplify-and-Forward Cooperative System with Layered Broadcast Coding," in *Proc. IEEE Veh. Technol. Conf. Spring*, Taipei, TAIWAN, May 2010, pp. 1–5.
56. W. W. L. Ho, T. Q. S. Quek, and S. Sun, "Decentralized Base Station Processing for Multiuser MIMO Downlink CoMP," in *Proc. IEEE Veh. Technol. Conf. Spring*, Taipei, TAIWAN, May 2010, pp. 1–5.
57. W. W. L. Ho, T. Q. S. Quek, and S. Sun, "Distributed Precoding for Network MIMO," in *Proc. IEEE Int. Conf. on Commun.*, Cape Town, SOUTH AFRICA, May 2010, pp. 1–5.
58. K. Woradit, T. Q. S. Quek, and Z. Lei, "Cooperative Multicell ARQ - Packet Error Rate and Throughput Analysis," in *Proc. IEEE Wireless Commun. Networking Conf.*, Sydney, AUSTRALIA, Apr. 2010, pp. 1–6.
59. T. Q. S. Quek, K. Gowda, and H. Shin, "Secure Joint Source-Channel Coding for Quasi-Static Fading Channels," in *Proc. IEEE Global Commun. Conf.*, Honolulu, HA, Nov. 2009, pp. 1–6.
60. H. Q. Ngo, T. Q. S. Quek, and H. Shin, "Reliable Amplify-and-Forward Two-Way Relay Networks," in *Proc. IEEE Int. Conf. Wireless Commun. and Signal Processing*, Nanjing, CHINA, Nov. 2009, pp. 1–5, **Invited Paper**.
61. T.-T. Ng, R. S. Pahwa, K.-H. Tan, J. Bai, and T. Q. S. Quek, "Radiometric Calibration using Stratified Inverses," in *Proc. IEEE Computer Vision Conf.*, Kyoto, JAPAN, Sep. 2009, pp. 1889–1894.
62. T. Q. S. Quek, Z. Lei, and S. Sun, "Adaptive Interference Coordination in Multi-cell OFDMA Systems," in *Proc. IEEE Int. Symp. Personal, Indoor and Mobile Radio Commun.*, Tokyo, JAPAN, Sep. 2009, pp. 2380–2384.
63. Z. Lei, T. Q. S. Quek, and F. Chin, "User-Selective Collaboration Maximizing Gain in Sum Rate," in *Proc. IEEE Int. Symp. Personal, Indoor and Mobile Radio Commun.*, Tokyo, JAPAN, Sep. 2009, pp. 197–201.
64. S. Sun, C. Yuen, and T. Q. S. Quek, "An Analog Space-Time Block Coded OFDM Wireless Relay Systems," in *Proc. Wireless Personal Multimedia Commun.*, Sendai, JAPAN, Sep. 2009.
65. A. Rabbachin, T. Q. S. Quek, I. Oppermann, and M. Z. Win, "Effect of Uncoordinated Network Interference on UWB Autocorrelation Receiver," in *Proc. IEEE Int. Conf. on Ultra Wideband*, Vancouver, CANADA, Sep. 2009, pp. 65–70.
66. H. Q. Ngo, T. Q. S. Quek, and H. Shin, "Amplify-and-Forward Two-Way Relay Channels: Error Exponents," in *Proc. IEEE Int. Symp. on Information Theory*, Seoul, KOREA, Jun. 2009, pp. 2028–2032.
67. K. Gowda, T. Q. S. Quek, and H. Shin, "Secure Diversity-Multiplexing Gain Tradeoff in MIMO Relay Channels," in *Proc. IEEE Int. Symp. on Information Theory*, Seoul, KOREA, Jun. 2009, pp. 1433–1437.
68. L. B. Thiagarajan, S. Sun, and T. Q. S. Quek, "Carrier Frequency Offset and Channel Estimation in Space-Time Non-regenerative Two-Way Relay Networks," in *Proc. IEEE Int. Workshop on Signal Processing Adv. in Wireless Commun.*, Perugia, ITALY, Jun. 2009, pp. 270–274.

69. U. Sethakaset, T. Q. S. Quek, and S. Sun, "Joint Layered Source Adaptation and Resource Allocation over Relay Networks," in *Proc. IEEE Int. Workshop on Signal Processing Adv. in Wireless Commun.*, Perugia, ITALY, Jun. 2009, pp. 265–269.
70. A. Rabbachin, T. Q. S. Quek, I. Oppermann, and M. Z. Win, "Effect of Uncoordinated Network Interference on UWB Energy Detection Receiver," in *Proc. IEEE Int. Workshop on Signal Processing Adv. in Wireless Commun.*, Perugia, ITALY, Jun. 2009, pp. 692–696.
71. T. Q. S. Quek and H. Shin, "Bursty Wideband Relay Networks," in *Proc. IEEE Wireless Commun. Networking Conf.*, Budapest, HUNGARY, Apr. 2009, pp. 1–6.
72. L. B. Thiagarajan, S. Sun, and T. Q. S. Quek, "Joint Carrier Frequency Offset and Channel Estimation in OFDM based Non-regenerative Wireless Relay Networks," in *Proc. IEEE Int. Conf. Acoustics, Speech, and Signal Processing*, Taipei, TAIWAN, Apr. 2009, pp. 2569–2572.
73. T. Q. S. Quek and H. Shin, "Bursty Narrowband Relay Networks in the Low-SNR Regime," in *Proc. IEEE Int. Symp. on Inform. Theory and its Applications*, Auckland, NEW ZEALAND, Dec. 2008, pp. 1–6.
74. K. Woradit, T. Q. S. Quek, W. Suwansantisuk, H. A. Wymeersch, L. Wuttisittikulij, and M. Z. Win, "Outage Behavior of Cooperative Diversity with Relay Selection," in *Proc. IEEE Global Commun. Conf.*, New Orleans, LA, Nov. 2008, pp. 1–5.
75. A. Rabbachin, T. Q. S. Quek, P. Pinto, I. Oppermann, and M. Z. Win, "Effect of Aggregate Narrowband Interference on the UWB Autocorrelation Receiver," in *Proc. IEEE Int. Conf. on Ultra Wideband*, vol. 1, Hannover, GERMANY, Sep. 2008, pp. 79–83.
76. A. Rabbachin, T. Q. S. Quek, P. Pinto, I. Oppermann, and M. Z. Win, "UWB Energy Detector in the Presence of Multiple Narrowband Interferers," in *Proc. IEEE Int. Conf. on Ultra Wideband*, SINGAPORE, Sep. 2007, pp. 857–862.
77. T. Q. S. Quek, H. Shin, M. Z. Win, and M. Chiani, "Robust Power Allocation for Amplify-and-Forward Relay Networks," in *Proc. IEEE Int. Conf. on Commun.*, Glasgow, SCOTLAND, Jun. 2007, pp. 957–962.
78. T. Q. S. Quek, H. Shin, M. Z. Win, and M. Chiani, "Optimal Power Allocation for Amplify-and-Forward Relay Networks via Conic Programming," in *Proc. IEEE Int. Conf. on Commun.*, Glasgow, SCOTLAND, Jun. 2007, pp. 5058–5063.
79. A. Giorgetti, D. Dardari, M. Chiani, T. Q. S. Quek, and M. Z. Win, "A Stop-and-Go Transmitted Reference UWB Receiver," in *Proc. IEEE Int. Conf. on Ultra Wideband*, Waltham, MA, Sep. 2006, pp. 309–314.
Invited Paper.
80. T. Q. S. Quek, D. Dardari, and M. Z. Win, "Energy Efficiency of Cooperative Dense Wireless Sensor Networks," in *Proc. ACM Int. Wireless Commun. and Mobile Computing Conf.*, Vancouver, CANADA, Jul. 2006, pp. 1323–1329.
81. T. Q. S. Quek, D. Dardari, and M. Z. Win, "Energy Efficiency of Cooperative Dense Wireless Sensor Networks," in *Proc. IEEE Int. Workshop on Wireless and Ad-hoc Networks*, New York, NY, Jun. 2006,
Invited Paper.
82. T. Q. S. Quek, D. Dardari, and M. Z. Win, "Energy Efficiency of Dense Wireless Sensor Networks: To Cooperate or Not to Cooperate," in *Proc. IEEE Int. Conf. on Commun.*, vol. 10, Istanbul, TURKEY, Jun. 2006, pp. 4479–4484.
83. T. Q. S. Quek, M. Z. Win, and D. Dardari, "UWB Transmitted-Reference Signaling Schemes - Part I: Performance analysis," in *Proc. IEEE Int. Conf. on Ultra-Wideband*, Zürich, SWITZERLAND, Sep. 2005, pp. 587–592.
84. T. Q. S. Quek, M. Z. Win, and D. Dardari, "UWB Transmitted-Reference Signaling Schemes - Part II: Narrowband Interference analysis," in *Proc. IEEE Int. Conf. on Ultra-Wideband*, Zürich, SWITZERLAND, Sep. 2005, pp. 593–598.

85. T. Q. S. Quek, M. Z. Win, and M. Chiani, "Distributed diversity in ultrawide bandwidth wireless sensor networks," in *Proc. IEEE Semiannual Veh. Technol. Conf.*, vol. 2, Stockholm, SWEDEN, Jun. 2005, pp. 1355–1359.
86. T. Q. S. Quek, N. Maeda, H. Atarashi, and M. Sawahashi, "Analysis on tradeoff between frequency diversity and inter-code interference considering fading correlation in forward link for VSF-OFCDM wireless access," in *Proc. IEEE Semiannual Veh. Technol. Conf.*, vol. 2, Los Angeles, CA, Sep. 2004, pp. 875–879.
87. T. Q. S. Quek and M. Z. Win, "Ultrawide Bandwidth Transmitted-Reference Signaling," in *Proc. IEEE Int. Conf. on Commun.*, vol. 6, Paris, FRANCE, Jun. 2004, pp. 3409–3413.
88. T. Q. S. Quek and M. Z. Win, "Performance Analysis of Ultrawide Bandwidth Transmitted-Reference Communications," in *Proc. IEEE Semiannual Veh. Technol. Conf.*, vol. 3, Milan, ITALY, May 2004, pp. 1285–1289.
89. H. Suzuki, Q. S. Quek, and K. Fukawa, "An orthogonal successive interference canceller for the down-link communications in a DS-CDMA mobile system," in *Proc. IEEE Global Commun. Conf.*, vol. 2, San Francisco, CA, Dec. 2000, pp. 847–851.
90. Q. S. Quek and H. Suzuki, "Performance of blind adaptive receiver with decision directed steering vector," in *Proc. IEEE Semiannual Veh. Technol. Conf.*, vol. 2, Houston, TX, May 1999, pp. 1246–1250.

Theses

1. Tony Q. S. Quek, "*Efficient Approaches to Robust and Cooperative Wireless Network Design*," Doctoral dissertation, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA, Feb. 2008.
Thesis advisor: Professor Moe Z. Win.
Thesis committee: Professor Dimitri Bertsekas, Professor Davide Dardari, and Professor Vivek Goyal.
2. Q. S. Quek, "*Multiuser Detection for DS-CDMA Mobile Communication Systems*," Master's thesis, Department of Electrical and Electronics Engineering, Tokyo Institute of Technology, Tokyo, JAPAN, March 2000, Thesis advisor: Professor Hiroshi Suzuki.
3. Q. S. Quek, "*A Blind Adaptive Linear Interference Canceller for Code Division Multiple Access Mobile Communication Systems*," Bachelor's thesis, Department of Electrical and Electronics Engineering, Tokyo Institute of Technology, Tokyo, JAPAN, March 1998, Thesis advisor: Professor Hiroshi Suzuki.

Tutorials

1. Tony Q. S. Quek, "Recent Advances in Heterogeneous Cellular Networks," IEEE International Conference on Information, Communications and Signal Processing, Tainan, TAIWAN, Dec. 2013.

Plenary Talks & Special Presentations

1. Tony Q. S. Quek, "Cognition in Heterogeneous Wireless Networks," IEEE Communications Theory Workshop, Phuket, THAILAND, Jun. 2013, Invited Session Talk.

REFERENCES

Available upon request.